IN THE CLAIMS

1. (Currently Amended) A signal processor comprising:

- a data compression encoder which operates to compression encode source data into compression encoded data having a variable compressed data rate, <u>said data compression encoder generating said compression encoded data in accordance with a compression encoding algorithm, the compression encoding algorithm including quantising the encoded data to produce the compression encoded data, and the compressed data rate being varied by said compression encoding algorithm in dependence upon an estimated comparison of said source data and a version of said source data produced by de-compressing said compression encoded data,</u>

- a multiplexer coupled to said data compression encoder and arranged in operation to concatenate said compressed data and descriptive metadata into a concatenated data stream, the metadata describing the content of the source data, and

- a control processor coupled to said multiplexer and arranged in operation to control said multiplexer <u>to the effect that</u> ~~whereby~~ a combined data rate of said concatenated data stream is less than or equal to a pre-determined maximum, <u>wherein said control processor is coupled to said compression encoder and arranged in operation to influence said compression encoding algorithm to an effect of controlling said compressed data rate produced by said compression encoder to achieve a predetermined minimum, the influence of said compression encoding algorithm being affected by controlling said quantisation of said encoded data to provide the predetermined minimum data rate, a data rate provided for said metadata being determined in</u>

accordance with a difference between said pre-determined minimum data rate and said pre-determined maximum data rate;

~~whereby said metadata is concatenated with compressed data corresponding to two or more non-contiguous frames of video data.~~

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Previously Presented) A signal processor according to claim 1, wherein said control processor is arranged in operation

- to determine a target data rate for said compression encoded data rate in dependence upon an amount of said metadata to be concatenated into said concatenated data stream, and

- to control said compression encoder to maintain said target bit rate.

7. (Currently Amended) A processor according to claim [[2]] 6, wherein the target bit rate is a rate Tb which is pre-set at a predetermined percentage of the maximum bit rate and the amount of metadata to be added.

8. (Canceled)

9. (Currently Amended) A signal processor as claimed in Claim [[8]] 1, wherein said encoded representation of said source data is formed using a discrete cosine transform.

10. (Previously Presented) A signal processor as claimed in Claim 9, wherein said compression encoding algorithm is an MPEG type algorithm.

11. (Original) A signal processor as claimed in Claim 1. wherein said compression encoder produces said compression encoded data as encoded data frames.

12. (Previously Presented) A signal processor as claimed in Claim 11, wherein said control processor is arranged in operation to determine said target bit rate as an average target data rate TBR_{ave}, in accordance with the following expression $TBR_{ave} = M-D/m$, where the maximum bit rate is M, the amount of metadata is D, and m is the number of frames over which the metadata is to be concatenated to the encoded signal.

13. (Previously Presented) A signal processor as claimed in Claim 12, wherein the number of frames over which the metadata is to be concatenated m is reduced by 1 upon the encoding of each frame and the amount of metadata D is reduced by Fn upon the encoding of each frame where Fn is the amount of data symbols in the encoded frame.

14. (Original) A signal processor as claimed in Claim 1, wherein the source data is representative of audio signals or video signals, or audio and video signals.

15. (Canceled)

16. (Previously Presented) A data recording apparatus comprising

- a signal processor as claimed in Claim 1 arranged in operation to produce a concatenated data stream of compression encoded data and metadata, and

- a recording drive arranged in operation to record the concatenated data stream produced by the signal processor onto a recording medium, the predetermined maximum data rate of the combined data rate of the concatenated data stream being determined in accordance with the bandwidth of the recording medium.

17. (Original) A data recording apparatus as claimed in Claim 16, wherein said concatenated data is arranged to be recorded in helical scan tracks on said recording medium.

18. (Previously Presented) A data recording apparatus as claimed in Claim 17, wherein the encoded data produced by the signal processor as part of the concatenated data stream is divided into frames and said recording drive operates to record one of said frames per track, metadata being recorded in the remainder of said track.

19. (Previously Presented) A communications apparatus which operates to communicate source data, comprising,

- a signal processor as claimed in Claim 1, which is arranged in operation to produce a concatenated data stream, which includes the source data represented as compression encoded data with metadata, and

- a transmission channel having a predetermined bandwidth, wherein the predetermined maximum data rate of the concatenated data stream is determined in dependence upon the predetermined bandwidth.

20. (Currently Amended) A method of processing source data comprising the steps of

- compression encoding the source data into compression encoded data having a variable compressed data rate in accordance with a compression encoding algorithm, the compression encoding algorithm including quantising the encoded data to produce the compression encoded data, and the compressed data rate being varied by said compression encoding algorithm in dependence upon an estimated comparison of said source data and a version of said source data produced by de-compressing said compression encoded data,

- concatenating said compressed data and descriptive metadata into a concatenated data stream, the metadata describing the content of the source data, ~~wherein~~ a combined data rate of said concatenated data stream <u>being</u> [[is]] less than or equal to a pre-determined maximum;

<u>wherein compression encoding the source data comprises</u>

<u>-</u>   <u>controlling said compressed data rate to maintain the compressed data rate at a predetermined minimum by quantising the encoded data to maintain the predetermined minimum rate,</u>

<u>-</u>   <u>determining a data rate for said metadata from a difference between said pre-determined minimum data rate and said pre-determined maximum data rate; and</u>

<u>wherein the step of concatenating said compressed data and descriptive metadata includes</u>

<u>-</u>   <u>concatenating said metadata at said determined rate</u>

~~whereby said metadata is concatenated with compressed data corresponding to two or more non-contiguous frames of video data.~~

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Canceled)

25. (Canceled)

26. (Currently Amended) A method as claimed in Claim [[25]] 20, wherein the target data rate is a rate Tb which is pre-set at a predetermined percentage of the maximum data rate and the amount of metadata added to each frame is dependent on M-Tb.

27. (Canceled)

28. (Currently Amended) A method as claimed in Claim [[27]] 20, wherein the step of generating an encoded representation of said source data is formed using a discrete cosine transform.

29. (Previously Presented) A method as claimed in Claim 28, wherein said compression encoding algorithm is an MPEG type algorithm.

30. (Previously Presented) A method as claimed in Claim 20, wherein the step of compression encoding said source data comprises the step of

- producing compression encoded data frames.

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31. (Previously Presented) A method as claimed in Claim 30, wherein the step of determining

said target data rate comprises the step of

- determining said target data rate as an average target bit rate TBR_{ave}, in accordance with

the following expression $TBR_{ave} = M-D/m$, where the maximum data rate is M, the amount of

metadata is D, and m is the number of frames over which the metadata is to be concatenated to

the encoded signal.

32. (Previously Presented) A method as claimed in Claim 31, wherein the step of determining the

target data rate comprises the step of

- reducing by 1 a number of frames m over which the metadata is to be concatenated is

reduced by 1 upon the encoding of each frame, and

- reducing the amount of metadata D by Fn upon the encoding of each frame where Fn is

the number of data symbols in the encoded frame.

33. (Original) A method as claimed in Claim 20, wherein the source data is representative audio

signals or video signals, or audio and video signals.

34. (Canceled)

35. (Original) A method of recording data comprising

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- producing a concatenated data stream according to the data processing method claimed in Claim 20, and

- recording the concatenated data stream onto a recording medium, the predetermined maximum data rate of the combined data rate of the concatenated data stream being determined in accordance with the bandwidth of the recording medium.

36. (Original) A method of recording data as claimed in Claim 35, wherein the step of recording comprises the step of

- recording said concatenated data stream in helical scan tracks on said recording medium.

37. (Previously Presented) A method of recording data as claimed in Claim 36, wherein the step of producing said concatenated data stream comprises

- dividing said concatenated data stream into frames, and the step of recording comprises the steps of

- recording one of said frames per track, and

- recording metadata in the remainder of said track.

38. (Previously Presented) A method of communicating source data comprising the steps of

- producing a concatenated data stream according to the data processing method claimed in Claim 20, which includes the source data represented as compression encoded data with metadata, and

- communicating the concatenated stream via a transmission channel having a predetermined bandwidth, wherein the predetermined maximum data rate of the concatenated data stream is determined in dependence upon the predetermined bandwidth.

39. (Original) A computer program providing computer executable instructions, which when loaded onto a computer configures the computer to operate the data processor as claimed in claim 1.

40. (Original) A computer program providing computer executable instructions, which when loaded on to a computer causes the computer to perform the method according to claim 20.

41. (Previously Presented) A computer program product comprising a computer readable medium having recorded thereon information signals representative of the computer program claimed in claim 39.

42. (Previously Presented) A computer program product comprising a computer readable medium having recorded thereon information signals representative of the computer program claimed in claim 40.

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